

ROCKS and MINERALS

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MONTHLY



Edited and Published by
PETER ZODAC

October
1944

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ROCKS and MINERALS

PEEKSKILL, N. Y., U. S. A.

The official Journal of the Rocks and Minerals Association

CHIPS FROM THE QUARRY

ROCKS & MINERALS Rates High!

Editor R & M:

Please accept my renewal for another year. I feel safe in saying that three-fourths of the information and most of the best articles on mineral localities are found in ROCKS AND MINERALS.

Roger A. Smith
Norman, Okla.

Sept. 2, 1944

A DEALER SPEAKS

Editor R & M:

Getting many orders from ROCKS AND MINERALS readers and am making many long range friends. Many of these friends are coming here when rubber and gas ease up as our Ozark rocks are different.

Yesterday I found a big chunk (800 or 900 lbs.) of a new red and brown mineral and have sent samples to Chicago for analyses. Also killed a big copperhead. The Indians in these mountains say rocks and minerals belong to the Great Spirit, are guarded by snakes, and should be left alone.

John Jennings,
Eureka Springs, Ark.

Sept. 1, 1944

Compliments to ROCKS and MINERALS!

Editor R & M:

I want to compliment you on the excellence of your magazine. Your articles on mineralogical subjects have been of high quality, and the many pertaining to foreign fields have been of special interest to me. I think you are doing a fine job in improving the hobby of mineral collecting.

Earl L. Calvert,
San Gabriel, Calif.

Sept. 5, 1944

Ads Pull Sales

Editor R & M:

May I call your attention to a serious error in my ad in the September issue? First paragraph, 3rd line, "Limited Quality" should have read "Limited Quantity." Did I make the error or did you?

Otherwise this ad and the others have been well put up and results have kept me busy day and night and reorders are coming in, especially on celestites and Penna. zeolites. Sold all first allotment of "grab bags" and nearly all of a second lot. My ads in ROCKS AND MINERALS sure pull sales!

F. R. Faux,
Eastern Mineral Exchange,
Bethlehem, Penn.

Sept. 12, 1944.

ROCKS and MINERALS Only Contact!

Editor R & M:

ROCKS AND MINERALS arrives each month and I certainly enjoy it. It remains the only contact with my hobby and I look forward to each issue.

Sgt. Richard G. Gooding
(Somewhere in France)

Aug. 30, 1944

Golden-Yellow Gem Apatites From Mexico

The finest golden-yellow gem apatite crystals known, many of which have been faceted into gems, occur at Cerro de Mercado (Iron Mt.) of Durango, Mexico. The crystals, which vary from tiny up to 2 inches or more in length, are found in small quartz veins and clay seams in a large hematite mine. The mine is worked open-cut and many of the miners save the crystals to sell to visiting collectors.

Martite, in large black octahedrons, and phenacite, in colorless crystals, also occur in the mine.

Batopilas Mine Famous For Silver Specimens

One of the world's great localities that is noted for handsome specimens of native silver is the Batopilas silver mine of northwestern Mexico. Museums and all important private collections possess very fine crystallized silver specimens from this locality. Massive native silver, weighing hundreds of pounds, is often uncovered during mining operations. Fine specimens of dark gray crystals and crystallized argentite also occur in the mine.

Batopilas is about 60 miles southeast of Chihuahua, in the southwestern part of the state of Chihuahua.

Buy War Bonds and Stamps

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((The Official Journal
of the
ROCKS AND MINERALS
ASSOCIATION))

Whole No. 159

UNUSUAL CALCITE CRYSTALS OF THE OLD MARIPOSA MINE

By FRANK DUNCAN
Terlingua, Texas

The Mariposa Quicksilver Mine during the early days of this century was one of the world's richest producers, but has only been operated sporadically since World War I. While cinnabar was the only ore mineral mined, this mine was the source of the greatest quantity of rare mercury minerals ever found in the world. An article, by this author, on these rare mercury minerals has been previously published in the November, 1937, issue of ROCKS AND MINERALS (The Terlingua Quicksilver District of Brewster County, Texas, pp. 325-332).

Recently, the Esperado Mining Company acquired these properties, together with adjoining properties, covering part of the same ore deposits as the original Mariposa Mine, in their purchase of the Chisos Mining Company.

Location

The Mariposa Quicksilver Mine is 4 miles due west of Terlingua, Texas, but about 8 miles by road, the difference in distance being due to the rough, mountainous terrain of the country. It is in the famous Terlingua district of Brewster County.

Associated with the ore deposits, there has always been found an abundance of many forms of calcites, both massive and beautiful and unusual formations of crystals, which are found in vugs and caverns in the limestone formations. The remarkable feature is the many different varieties found, often vugs only a few feet apart having entirely different forms and shapes; frequently, twinning and unusual

ly beautiful phantoms are found. While many vugs and water courses have been found containing large crystals, they would be badly etched or covered with drusy coatings of satin spar selenite (gypsum), some resembling branches, leaves and wreathes of considerable size, principally of a sparkling snow-white variety.

Due to the fact mine operators in the past have been greatly opposed to the collecting of specimens of any sort, and also as the method of mining was to blast so as to break down the ore as fine as possible to save crushing expense, most of these fine calcite crystals have been destroyed. One unfamiliar with the nature of calcite crystals would have no idea of the amount of work and care required to obtain good unmarred specimens; the ease with which calcite will cleave, its softness: Number 3, and extreme brittleness, necessitates unusual care, both in obtaining and handling specimens. Therefore, especially when of unusual crystallization, fine calcite crystals are rare and of unusual value.

Crystals Found by Dr. Johnson

During the first part of May of this year, Dr. J. Harlan Johnson, of the Faculty of the Colorado School of Mines and Curator of the School's Geological Museum, whom I had assisted in examining the above mentioned properties, told me that in one of the old workings he had observed some very unusual calcite crystals and would like for me to assist him in getting a good specimen for the Mus-

eum of the School and gave me permission to obtain whatever others I could for myself.

Huge Vugs lined with Crystals

I gladly consented and went with him to examine the place and determine just what tools would be needed for the job. I found it to be an open hole some 20 feet in depth from which an incline drift had been driven some 50 feet, containing a considerable sized stope. On the left wall of this drift were found six or seven vugs or small caverns ranging from probably 1 x 2 feet to approximately 3 x 5 feet in size. These vugs were lined with unusually beautiful calcite crystals, each vug containing a different form of crystallization, even though some of the vugs were only a few feet apart. Fortunately, the one containing the crystals which interested Dr. Johnson, was near the entrance and a light was not necessary for work. While we obtained a few nice groups of the crystals with a prospecting pick and chisel, I saw that to obtain the best ones, some carefully placed blasts would have to be made.

Drilling and Blasting Necessary to get the Crystals

The next evening, equipped with hammers and drills, and accompanied by my daughter, Mrs. Kathleen Kitchell, we drove over to the location, and after cleaning out all debris and broken rock, we packed old sacks filled with paper in and around the crystals and then proceeded to hand drill an 18 inch hole to place a small charge of powder. Kathleen held and turned the drill while I swung the hammer. The position we were forced to work in, made the work hard and difficult, but we made fair progress and in a few hours we completed our work and put off a small blast. After waiting for the powder fumes to clear out, we climbed down and found that the blast had broken seams in which we could use a sharp moil point and drive it in with a hammer and remove slabs with fine groups of crystals intact. However, I realized the opening would have to be enlarged considerably before we would be able to reach the crystals deep in the narrow cavern. I began drilling holes in

the limestone above and below the opening, but found the rock extremely hard and tough and practically made no headway "single-jacking" with a four pound hammer. I was able to get a Mexican to strike for me with an eight pound hammer, but even then, we used three drills and it took six hours to drill two 18 inch holes. After blasting these, I had room to work in by myself. One more blast produced several more nice groups of crystals, but the next blast was not successful; the jar being too heavy and breaking and shattering the crystals. But thanks to the old sacks, many beautiful single crystals were obtained. I drilled another hole that ran in more hard rock and used a half stick of 40% dynamite, well tampt, but which simply blew out the tamping, loosening nothing. I again blew the same hole with $\frac{3}{4}$ stick of dynamite, and while it again blew out, this time the overlying rock was jarred loose enough to obtain a few more fine groups. We had to very carefully wrap these specimens, and I carried them up the twenty foot rock wall of the opening in sacks on my back. In the meantime, we had broken an axle in the car and were without transportation, and as the specimens would probably be ruined if left there, we carried them away in sacks, a distance of about three-quarters of a mile. Kathleen and I worked evenings and at odd moments on this job, which took us about a month to complete.

Crystallization of Crystals Very Complex

It is difficult to describe the peculiar type of crystallization of these particular crystals, as they are of a very complex type. Fortunately, Dr. Johnson, being an excellent crystallographer, offered to assist me in the preparation of this article, and while he will be busy during the summer months in Mexico and elsewhere and will not have time to thoroughly study the crystals until next winter, he has given me the following notes on their form:

"Complex crystals built on a high rhombohedron. Faces consist of:

- 1) a high rhomb rhombohedron, modified by
- 2) a moderately low scalenohedron
- 3) cut by a lower scalenohedron.

The most interesting thing about the crystals however, is that the rhombohedron faces are not complete, only a skeleton structure having developed around the edges, leaving the larger part of the face area indented and showing multiple tiny parallel rhombohedral facets. On a few of the crystals, the faces of the higher scalenohedron are stepped."

These crystals are brown in color, varying from honey golden to a light chocolate brown. In some, the underlying rhomb is of a golden yellow, showing a fine grained pattern similar to petrified palm wood. In others, the underlying rhomb is coated with an iron stain, giving the whole a rich red coloring. There are many small and short, low lying scalenohedrons on the larger faces, from the size of a pin head up to probably a half inch that resemble a well polished faceted gem. The double step of the scalenohedron form the butterfly type of crystal. These crystals are as transparent and brilliant as fine cut glass.

Crystals Fluoresce Beautifully

Most of the groups of these crystals were found to be based on a black band of manganese overlying massive snow-white calcite. Upon further investigation, we found these crystals to show excellent fluorescence, fluorescing from yellow to green, the phantom structure showing strongly. In addition, we were surprised but pleased to find that the white calcite showed a strong white fluorescence and phosphorescence, the phosphorescence being as intense and lasting as that of the now well-known blue phosphorescing pink calcite of this district. Thus, considering not only the rare crystallization, but also their fluorescing and phosphorescing beauty, these are indeed rare specimens.

We were glad that these crystals were in so good a state of preservation, as a larger vug a few feet away contained beautiful transparent pale golden crystals of another complex nature, but differing from the above, that had been badly damaged from previous mine blasts, and most of the crystals were badly marred. However, I secured a few nice specimens

that are excellent for crystal study and these also show the same type of fluorescence and phosphorescence as above described.

From a vug in the end of the workings, we obtained a few nice specimens covered with transparent scalenohedrons, ranging from $\frac{1}{2}$ to $\frac{3}{4}$ inch, on which are found large, irregular crystals, some of which are double terminated, others wedge shaped, and some of the butterfly type. These show pale green fluorescent phantoms.

In closing, I would like to add a remark concerning the phenomena of fluorescence and phosphorescence of some of the calcites found in this district. Usually associated with calcites are manganese minerals, the presence of which has been generally accepted as being the probable activator of the phenomenon of fluorescence. However, in this district, many of the calcites found associated with manganese minerals, neither fluoresce nor phosphoresce. But in all cases in which, especially the phosphorescent calcites, which also fluoresce, are found, they are always in association with deposits of the mercury minerals. As some of the mercury minerals are highly fluorescent, it is a quite possible assumption that it is the presence of the mercury minerals that is the strong activator, especially of the phenomenon of phosphorescence, and probably the source of some fluorescence, rather than that of manganese minerals alone.

Line Pits of Pennsylvania Famous for Williamsite

The old abandoned Low's chromite mine (better known as the Line Pits because they are on or very close to the Maryland-Pennsylvania line) is especially noted for the very fine gemmy masses, often translucent, of green williamsite. These gem masses were much sought for by collectors who had many of them cut and polished for gems and ornaments.

The line pits are in southern Lancaster County of southeastern Pennsylvania.

A TRIP TO GREAT NOTCH, N. J.

By PETER ZODAC

Editor ROCKS and MINERALS

On Sunday, June 4, 1944, 15 members of the Mineralogical Society of Washington, D.C., under the leadership of Messrs. C. H. Robinson and French Morgan, President and Secretary, respectively, were in Paterson, N. J., on a field trip. Here Mr. O. W. Bodelsen and the writer, President and Secretary of the Rocks and Minerals Association, respectively, joined the group. It was the hope of the Society to visit the Prospect Park trap rock quarry, in fact all arrangements, apparently, had been made for this but when the members arrived in Paterson they discovered, too late, that entrance to the quarry would be denied them.

But there are other working quarries around Paterson, besides Prospect Park, and the Consolidated trap rock quarry at Great Notch was selected for their visit.

The Consolidated quarry (operated by the Consolidated Stone and Sand Company) is a huge working. It is about

2000 ft. long, 500 ft. wide, with vertical walls 100 ft. high. The Greenwood Lake Branch of the Erie R.R. runs along the western edge of the quarry.

Location

Great Notch, a small village, is in the southeastern part of Passaic County, and about 3 miles south of the business section of Paterson. Paterson, a city of about 150,000 pop., is in northeastern New Jersey.

Geology

The Consolidated Quarry is in the Watchung Mountains of northeastern New Jersey. The rock is basalt. The basalt of the Watchung Mountains is studded with quarries operated for road metal and many of these quarries are famous for mineral specimens.

Mineralogy

The Consolidated Quarry is a huge working as has already been mentioned. But the first 15 minutes spent in it yielded



The group at New Street Quarry, Paterson, N. J., where a brief stop was made on the way to the Consolidated quarry.

Reading left to right: (1) Mrs. Raymond Meier, (2) Raymond Meier. (3) Truman Doyle. (4) Henry J. Noddings. (5) Mrs. Windsor B. Stroup. (6) Miss Ada Stein. (7) Windsor B. Stroup. (8) Miss Jean Goldman. (9) C. M. Davis. (10) Jerome Stein. (11) Mrs. C. H. Robinson. (12) Mrs. Richard L. Sylvester. (13) C. H. Robinson. (14) Oscar W. Bodelsen. (15) Peter Zodac. (16) French Morgan.

Photo by Richard L. Sylvester



Good Pickings at the Consolidated Quarry

The group at the extreme south end of the quarry where fine stilbites, heulandites, and other minerals were found.

Photo by Richard L. Sylvester

no minerals except calcite—colorless, drusy, and though present in huge amounts it was not very interesting from a collector's viewpoint. All at once someone stumbled upon fine stilbite, in yellowish-brown crystals. This created a sensation. Mr. Bodelsen then found heulandite, in the usual, colorless, coffin-shaped crystals, and very nice. Mr. Davis next found amethyst, in deep purple crystal groups. Deep red jasper was soon found, either by Dr. Doyle or Mr. Sylvester, or by both. This was followed by a find of small but interesting masses of chrysocolla by Mr. Robinson. All of these finds were made in one concentrated area in the blasted, broken-up rock at the extreme south end of the quarry. Here the group spent a most enjoyable afternoon gathering many varieties of interesting specimens. (Incidentally, credit for finding the first stilbite should go to Mr. Morgan who found the mineral, in small amounts, at the north end of the quarry).

An interesting phase of the collecting which created much speculation among

some of the collectors, was the fact that many masses of basalt were found to be wet, inside, on being broken open. The day was quite warm, the surfaces of the rock thoroughly dry, yet when a mass of basalt would be broken apart its inside would be quite wet. Mr. James H. Benn, of the U. S. National Museum, Washington, D.C., to whom specimens had been sent, is inclined to think that the dampness of the rock was the result of absorption and the ability of the basalt to hold water in small fissures and gas cavities over periods of time.¹ Mr. Benn, a member of the Society, had planned to attend the field trip but at the last moment an important engagement prevented him from doing this.

Among the minerals occurring at the Consolidated Quarry that were collected on the trip or found by the writer on previous trips are:

Azurite: Thin bluish films and stains on calcite crystals.

¹Personal Communication.

Bornite: Tiny rounded masses and small veins in a fragile dark brown trap appeared quite common on the trip. The bornite was almost always embedded in or near quartz which in turn was incrustured by a chalky-white earthy alteration of cacholong. In practically every instance the bornite was incrustured by malachite.

Calcite: Very common, especially colorless, drusy crystals on basalt. A 1/2 inch doubly terminated colorless crystal on drusy colorless calcite was seen. Tiny colorless crystals, in small amygdules (cavities) of massive basalt, are common—oftentimes earthy masses of red hematite or of brown limonite are in the amygdules, too, so that the calcite crystals are difficult to see unless the earthy masses are first washed out.

Chalcocite: Small dark gray metallic masses, always surrounded by malachite, occur on calcite crystals.

Chalcopyrite: Small brassy masses imbedded in massive quartz, also in a mass of small calcite crystals, and always

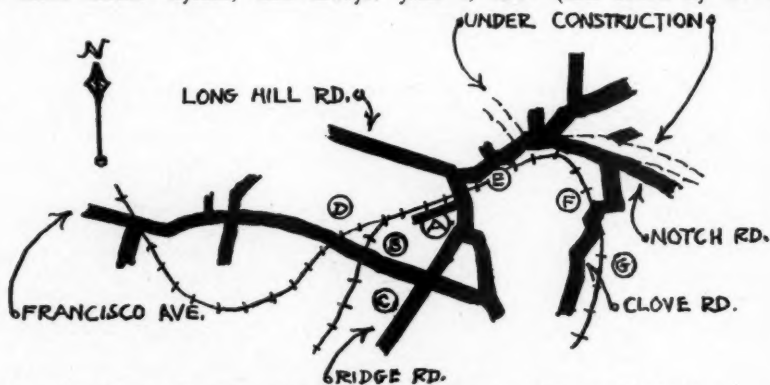
coated by thin layers of malachite, were collected during the trip.

Chrysocolla: Small greenish blue masses on drusy colorless calcite crystals were quite common on June 4th, 1944.

Cuprite: Small dark red masses, associated with small bluish-green masses of malachite, were found some few years ago by Mr. Wm. C. Casperson, of Paterson, N. J., who presented the writer with a nice specimen on Fri. May 1, 1936. Incidentally, Mr. Casperson is now the Curator of the Paterson Museum, a small but famous institution which is especially noted for its fine mineral collections. No mineral collector visiting Paterson for the first time should leave the city without calling at the museum.

Hematite: Common as small reddish earthy masses in amygdules of basalt; also as reddish stains on rock. Tiny crystals on crystallized amethyst also seen.

Heulandite: Small to tiny colorless crystals, in cavities of basalt or imbedded in drusy calcite, were quite common on June 4, 1944 (first found by O. W.



Map showing location of some trap rock quarries in Great Notch, N. J.

- (A) Francisco Bros. Quarry (a noted quarry once famous for its fine minerals—abandoned).
- (B) Old Francisco Bros. Quarry.
- (C) Second Francisco Bros. Quarry.
- (D) Tunnel for waterworks.
- (E) Great Notch station of the Erie Railroad, Greenwood Lake Branch.
- (F) Great Notch Corporation Quarry in operation but very poor in minerals.
- (G) Consolidated Stone and Sand Company Quarry. It was this quarry which the group visited and where many fine minerals were collected.

Note: The road marked "Under Construction" has been finished and is now a fine concrete highway, a continuation of N. J. 6.

Map by Walter P. Sachs from his article on the Francisco Quarry, *ROCKS AND MINERALS*, April, 1940. pp. 111-115.

Bodelsen). Sometimes the crystals were stained red by hematite or brown by limonite. As brown stilbite was quite common in the cavities of the basalt, a number of the brown-stained heulandites were collected under the impression that they were stilbites, and not examined until brought home when their true identity became known. Sharp little crystals of colorless heulandite, associated with brownish stilbite, were also seen.

Tiny heulandite crystals were also noted in amygdules of massive basalt, oftentimes red earthy masses of hematite or brownish earthy masses of limonite so coat the crystals (at times completely filling the cavity to overflowing) that the heulandite cannot be seen, let alone distinguished, until the earthy masses are first washed out.

Limonite: Common as brownish stains on the rocks and minerals of the quarry; also common as brownish earthy masses in amygdules of compact basalt.

Malachite: Quite common but generally as thin scales, crusts, or stains on minerals, chiefly those of copper, such as bornite, chalcocite, and chalcopyrite. Tiny botryoidal masses on colorless drusy calcite also present.

Opal var. Cacholong: Although specimens of this mineral were not seen its presence in the basalt is suspected. On the June 4th field trip, large masses of a white, earthy mineral—strongly resembling altered cacholong—were very common. The mineral was associated chiefly with red jasper to form attractive specimens. A number of specimens were collected but due to rush of work they have not yet been thoroughly examined.

Quartz, var. Agate: The Consolidated Quarry is noted for its beautiful reddish banded agate and many specimens have been found by collectors. It was due to these agates that Mr. Wm. C. Casperson, some years ago, brought the quarry to the writer's attention. A number of specimens have been polished and they look very attractive.

Quartz, var. Amethyst: After Mr. Davis found his first specimen of amethyst, the mineral appeared to be quite common. It occurred, oftentimes

nicely crystallized, in large cavities of rock. A very nice deep purple amethyst, crystallized on agate, was acquired by the writer some years ago.

Quartz, var. Chalcedony: Bluish, brownish, and reddish masses, often botryoidal, but also present as small veins, are quite plentiful. Chalcedony when banded is called agate.

Quartz, var. Drusy: Small masses lining vugs and cavities of basalt have been found.

Quartz, var. Jasper: Deep red opaque masses, generally incrusting with the white earthy cacholong (?) were quite common on the June 4th field trip.

Quartz var. Porcellanite: Some few years ago a number of chalky-white opaque masses, generally banded with chalcedony and agate, were found by collectors who called them porcellanite (porcelain jasper). This might really have been cacholong opal, whose presence is suspected in the quarry, and which may have altered into the white earthy masses that were so plentiful on the June 4th field trip.

Quartz, var. Rock Crystal: Small crystals and groups of crystals, on chalcedony, have been found.

Quartz, var. Smoky: A group of small crystals on chalcedony (in a vug) is in the writer's collection.

Quartz (Crystal Cavities after Glauberite): One specimen of cellular smoky quartz which contained a number of diamond-shaped cavities (crystal cavities after glauberite), was found by the writer on the June 4th field trip.

Sphalerite: Small lustrous resinous grains in dull black basalt were found by the writer some years ago.

Stilbite: Beautiful specimens as groups of yellowish-brown to brown crystals were common on the June 4th field trip. The finest crystals incrusting pockets or small cavities in basalt; small groups associated with colorless heulandites, and embedded in colorless drusy calcite, and all embedded in pockets of basalt, were also collected. Groups of small brownish crystals (also single crystals), among small rock crystals, were found by the writer on a previous trip to the quarry.

DEAD GEYSERS EXIST IN MONTANA

By H. E. MURDOCK

Bozeman, Mont.

Yes, we do have a "DEAD" OLD FAITHFUL in our front yard, and some in our back yard.

These were found in southwestern Montana at the site of an extinct geyser and hot springs basin. We took several to the Montana State College where they were installed in the rock garden on the campus; the largest weighs 2600 pounds.

I brought in several "cones" varying in size from less than a pound up to a couple hundred pounds. One of the larger cones was installed as a fountain in the rock garden at the Rock Pile, in Bozeman, where it now spurts water through the same hole Mother Nature used to spurt steam and hot water when it was *in situ*.

As Edna Culbertson suggested in her article¹ for her cone, these would make

very interesting museum pieces for display. From observations made, it appears that these specimens are the complete cones and did not extend deep into the ground. Of course we found broken pieces, but the larger specimens seem to be complete.

The locality for the dead geyser basin is in the Lower Madison Valley, near the three forks—Gallatin, Madison, Jefferson—of the Missouri River, near Three Forks, in Gallatin County, of southwestern Montana.

Opalized wood, a little agatized wood, and fossil fishbones are found near the basin. Not far away, in the Horse Shoe Hills, nice trilobites occur.

¹Have you a "dead" old Faithful in your front yard? By Edna Culbertson, ROCKS AND MINERALS, July 1944, pp. 203-206.

WORLD'S FINEST DESCLOIZITES COME FROM NEW MEXICO

Descloizite is a lead and zinc vanadate and good specimens are found at a number of localities throughout the world. The world's finest specimens, however, occur in the silver-lead mines of Georgetown (northeast Grant Co.) in southwestern New Mexico. Gorgeous druses and incrustations of descloizite in colors varying from yellow through all the shades of orange-red to deep reddish-brown occur lining cavities or coating minerals, chiefly quartz. Northrop¹ records

a stalactitic descloizite that was 3 feet long and 6 to 8 inches in diameter.

Interesting brown pseudomorphs of descloizite after vanadinite xls are also found in Georgetown. The Commercial mine at Georgetown is especially noted for its fine descloizites.

¹Northrop, Stuart A., *Minerals of New Mexico*, Univ. of New Mexico Bull., Albuquerque, N. Mex., 1942, p. 125.

Orpiment and Realgar From Mercur, Utah

The finest and largest crystals of orpiment and realgar known in America, if not in the world, come from the gold mines of Mercur, Tooele Co., Utah. These crystals, of great perfection and beauty (yellow for orpiment and red for realgar), have exceeded 2 inches in length. Both minerals are arsenic sulphides and they commonly occur together. Beautiful transparent cleavage masses of orpiment are also common in the mine.

Gem Wernerite From Madagascar

Wernerite of gem quality, in large yellow crystals, associated with beryl, euxenite, and monazite, occurs in a potash pegmatite at Tsarasaotra, on Tsibohaina River, Madagascar.

Beautiful faceted gems have been cut from this stone; they resemble golden beryl in appearance but may be distinguished by the strength of the double refraction and in being softer (H 6½).

Wernerite is also known as scapolite.

AGATES AND THE HORSE

By JACK SCHWARTZ

656 South Hendricks Ave., Los Angeles, Calif.

On a side road, a few miles from the Mint Canyon Highway, in S. Calif., Syd Dennis and myself were putting the finishing touches to the lunch. Syd was draining his tomato juice and I was puffing on a cigarette. In the rear view mirror I noticed an old man, cane in one hand and two shopping bags in the other, marching toward us. When he neared the car I hailed him.

"Hello there, can you tell us where we can find some agates around here?"

"Sure thing", he smiled, "there are plenty of agates on my property."

"And where is that?" Syd asked.

"Oh about one mile and a half from here".

I then suggested that we give him a lift and also asked whether we could collect on his property. He agreed.

He directed me through a small canyon, there was no road, and several times we had to ford a stream. After a bumpy ride we reached his property. The three buildings consisted of salvage material, neatly constructed, plainly showing much labor and detail. He lived alone, we found out, though he didn't think so, what with his five goats, two guinea hens, two dogs, two cats, and two horses.

Mr. Miles, as he introduced himself, was a veteran of the Spanish-American war. He served in the Philippines, was wounded by a Moro who was trying to decapitate him; (he showed us the scar on his head), and was indeed grateful to the USA for his pension and his homestead. He told us a few stories of his action in the Philippines and we were greatly impressed.

The hills surrounding Miles property were strewn with all kinds of agates. However none were over two inches in width. Many of them were ribbon or fortification agate. Most collectors who have had any experience in collecting Mint Canyon agates usually limit their "catch" to a few, for one could spend the rest of his life just cutting and polish-

ing all he could carry home.

Some of the nodules we found were quartz crystal geodes; the crystals were not colorless, in fact they were so stained that one would swear they were citrine. For about one hour we strolled up and down the juniper-covered hills, picking up a few geodes and keeping the better agates.

Returning to the Miles property we had to cross a narrow canyon to reach the buildings. However when trying to cross, one of Mr. Miles horses ran towards us and began to kick his hind heels high in the air. We ran for the nearest juniper and looked for Mr. Miles. He was nowhere in sight; the horse, wait! patiently, hoping to catch us. Finally we caught sight of Mr. Miles, explained our predicament and we heard him in a lusty guffaw.

Mr. Miles began to whistle and the horse left his post and ran to his master. We were bade to cross the canyon and we cautiously made our way to our savior.

"Sorry about my baby here," Mr. Miles explained, "You see, this horse was never broke, she is four now, and she just likes to play".

"Some fun", I said, "Nothing like kicking a guy's head off."

Mr. Miles laughed loud and long. I suppose the horse finally decided we were okay and he began to chase the five goats up the hillside. The poor goats ran this way and that way, but "Baby" always ran them ragged.

We thanked Mr. Miles for his hospitality and got into the car ready to leave. No sooner was the motor started when "Baby" was right there, trying to kick the body off the car. I quickly put it in gear and made off as fast as first would go. In the rear mirror, I noticed that "Baby" was jogging along. When we reached the gate, "Baby" was waiting there for us and then and there a hero

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The Division of Geological Sciences, Harvard University, announces with profound sorrow the death, on August 27, 1944, of

HARRY BERMAN

Associate Professor of Mineralogy and Curator of the Mineralogical Museum

Harry Berman was born in Boston, Massachusetts, February 16, 1902, the son of Robert and Rebecca Berman. He graduated from the High School at Johnstown, Pennsylvania, in 1920 and attended Carnegie Institute of Technology, Pittsburgh, in the academic year 1920-21. In 1922 he became an employee of the Smithsonian Institution (National Museum) where his interest in mineralogy became manifest. While there he took some courses at George Washington University. At the instance of Professor Charles Palache, he became Assistant in the Mineralogical Museum at Harvard in 1924 and in 1925 published his first paper on mineralogy. His active career as a mineralogist then began.

As a part-time student he entered Harvard and attained the Adjunct in Arts degree in 1931. He gained the M. A. in 1935 and the Ph.D. in 1936. As part of his training, he spent the year 1931-32 in Europe, studying largely under V. M. Goldschmidt in the Mineralogical Institute at the University of Göttingen and with Victor Goldschmidt at Heidelberg University, and also spending some months at Cambridge University, England.

With the outbreak of the war Berman began to devote his time to the development of optical calcite and of fluorite, making many trips to prospective mining locations. He also became Crystallographer and later Director of Research and Technical Adviser for the Reeves Sound Laboratories and affiliated Hudson American Corporation in the development of the manufacture of quartz crystal oscillators. He was successful in developing laboratory

techniques into manufacturing processes, thereby improving the product and economizing in the use of materials.

His services as a consultant were required in similar work sponsored by the British Government. On a trip to England he lost his life in an airplane accident at Prestwick, Scotland, within 24 hours after leaving New York City.

Berman was married to Bessie Yaffe, of Chelsea, Massachusetts, in 1925. They have two children, Robert, born in 1929, and Eleanor, born in 1934, who reside at 34 Prentiss Street, Cambridge, Massachusetts. Berman is also survived by a sister, Mrs. Harry Zide of Brighton, Massachusetts, and two brothers, Joseph, of Johnstown, Pennsylvania, and Abraham, an Army sergeant, taken prisoner by the Japanese at Corregidor.

Berman's scientific work was broadly based. He was the chief author of 17 papers and joint author of 18 others. His chief work was, however, in the new *Dana System of Mineralogy*, the first volume of which by Palache, Berman, and Frondel, has just been published. To the continuation of this great work he was pledged, and only the call of important and necessary war work, in which he lost his life, would have diverted him from it.

The Division of Geological Sciences shares with you what little we know about Berman's death. Our sense of loss of a friend, a comrade and a patriot is very great. We give herewith an outline of his scientific career. We cannot however, revive his enthusiasm for science, his dispassionate judgment of his kindly and helpful ways.

Agates and the Horse

(Continued from page 311)

was born. Syd gallantly opened the door of the car, rushed to the gate, opened it and I drove through. Syd then closed the gate and jumped into the car. We looked to see where the horse was. "Baby" was nonchalantly chewing on some grass, in all evidence, unaware of our presence!

I can't forget that ornery four-legged animal. Why? Well, one of the agates I picked up at Miles property, has an unmistakable picture outline of a horse!

Editor's Note: The above locality is in Southern California. Mint Canyon is noted for its fine agates.

Azurmalachite from Arizona

Azurmalachite is a mixture of azurite and malachite, both massive. It takes a beautiful polish and is much used as an ornamental stone and as a gem. The blue of the azurite and the green of the malachite contrast nicely when polished.

The most noted locality in Arizona for azurmalachite are the copper mines of Bisbee, Cochise County.

Lodestone from Cornwall, Penn.

Good lodestone has been found loose on the surface at the Cornwall iron mine, Cornwall, Lebanon County, Penn. This is but one of the many interesting minerals to be found at this locality which is Pennsylvania's most noted iron-copper mine that is still in operation.

Club and Society Notes

Los Angeles Lapidary Society

The Los Angeles Lapidary Society held one of the most interesting and instructive monthly meetings Monday, August 7. Because of the absence of Mr. Loren Mitchell, program chairman, who is in the east, Mr. Fred Rugg took charge of the program. Mr. Rugg gave a fine talk on the dangers of the desert. He is well acquainted with the desert since 1910 when he drove a team through Imperial Valley.

Mr. Herbert Manlux, who spent July near Mono Craters, spoke of that region and presented each member with a volcanic bomb. Mrs. Belle Rugg sketched a trip that she and a party took into the Chuckawalla Mountains; while Mr. Chas. G. Schweitzer entertained the group with his narration of a trip to Horse Canyon.

Over 100 members and guests enjoyed the meeting presided over by the President, Mr. Rolland E. Willis. The display of polished stones was unusually good.

Chas. G. Schweitzer, *Reporter*.

Southwest Mineralogists

A Brief Report On Our Activities

July 21—An educational talk on limestone caverns with beautiful moving pictures of the Luray Caverns of Virginia and the Carlsbad Caverns of New Mexico was enjoyed by all. Mr. Victor Arcienega, the well known mining engineer, spoke a few words on how Caverns are formed.

July 28—The study group under the direction of Mr. Eales learned how to test minerals by the hardness test.

July 30—This was our annual trip to the Western Trails Museum and the home of Mr. and Mrs. Marion Speer of Huntington Beach. A very pleasant day was spent seeing the large collections of minerals, rocks, and early day articles. Mr. Speer gave us another of his interesting talks. A bountiful pot luck dinner was enjoyed by all of us. Mr. and Mrs. Speer are the perfect host and hostess, and we are always assured of a good time at their home.

Alwilda and Kenneth Dart were co-chairmen of the month.

Aug. 4—Mr. Roscoe A. Goodcell, of the Automobile Club of So. California, gave us a very interesting and educational talk on the Alaskan Highway. He explained the magnitude of it. It is hard to imagine a road extending from Los Angeles, east through California, Arizona, New Mexico, Texas and fifty-

four miles into Louisiana being built in six months. It was finished six weeks ahead of schedule. We certainly have to take our hats off to the engineers and every man that made the road possible. Looking at the country before starting it, it looked like an impossible task. There were mountain ranges seven and eight thousand feet high with peaks ranging over eighteen thousand feet, virgin forests, bogs, frozen ground and many rivers. In the summer time, there were mosquitos, deer flies, the Indian's no-secum flies, and other insects by the billions to contend with. He illustrated his talk with 110 beautiful colored slides taken of the road and country. He also spoke about and showed some slides of the Richardson Highway in Alaska.

Aug. 18—This was a Business meeting followed by a very interesting talk.

Aug. 25—More fun in learning how to determine minerals—this time by the streak test.

Jeanne M. Lippitt, *Corres. Sec'y*
Manhattan Beach, Calif.

East Bay Mineral Society

The following are the new officers of this California society for the coming year:

President—Orlin J. Bell, Vice President—Robert Deidrich, Treasurer—L. J. Hostetter, Secretary—B. E. Sledge, Directors—J. Lewis Renton, W. C. LaRue and Miss Marjory Welch.

State Mineral Society of Texas

The State Mineral Society of Texas held a State Meeting on September 23rd, 1944, at the home of Mr. and Mrs. A. E. (Bill) Curry, located five miles southeast of San Angelo on the San Antonio Highway.

Mr. Curry has one of the finest private collections in the Southwest. In addition to this he has a rock Museum to house his collection, a beautiful rock home with a newly completed mantle, rock fences, fish pond, rock fire place with concrete tables, rock pump house, etc.

On Sunday, September 24th Mr. and Mrs. Curry opened their home to the public in order that everyone could see what beautiful things can be done with rock.

For further information please get in touch with the State Secretary, Mrs. Viola Block, 829 W. Jefferson, Dallas, 8, Texas.

Our dealers can supply anything in minerals except the "ahs" and the "ohs!"

... With Our Dealers ...

Jno. B. Litsey, of Dallas, Texas, has a new list of excellent specimens in smaller sizes. Surely he must have your size in stock? Measure yourself by examining his ad!

Saws, polishing powders, and carefully selected cutting materials—in three ads—are featured this month by the Western Mineral Exchange, of Seattle, Wash. You can "saw" yourself some nice items out of his stock with an order!

Goethite (superb specimens) and boleite (rare specimens) are offered collectors this month by the West Coast Mineral Co., of La Habra, Calif. It isn't rare for collectors to buy superb specimens from our dealers!

Lapidary supplies of all descriptions—in stock and available without priority—could be the slogan this month for Warner & Grieger, of Pasadena, Calif.

The H. E. Powell Co., of Little Rock, Ark., have some nice mineral bargains for this month. Every collector likes a bargain—in minerals!

Colorful specimens of jasper is an October special of James W. Riley, of Springfield, Ohio.

Unusual calcite crystals from the old Mariposa mine of Terlingua, Texas! And they are unusual—in color, type, and quality. Our readers are eager to obtain unusual specimens of high quality and these calcites are TOPS.

Choice and selected mineral specimens for collectors and museums—and a large number of them—are featured this month (in two ads) by Everts L. Horton, of Bethesda, Md. Look them over at once! Then select your choice specimens.

Water-clear quartz xls of excellent quality are advertised by J. L. Davis, of Hot Springs, Ark. We bet your collection will be increased by a number of points if you send him an order for some of his crystals!

Cinnabar in fluorescent opalite—nice specimens and fluorescent, too! In the stock of R. L. Taylor, of Battle Mountain, Nev.

The Eastern Mineral Exchange, of Bethlehem, Penn., announce that their large supply of celestites and zeolites are going so fast that before long it will be exhausted. Better rush your orders in, boys!

Chas. O. Fernquist, the well-known Spokane, Washington, dealer, has just dug up some more nice specimens to tempt our readers. Did you ever hear of nice azurite and malachite specimens from Mexico? We didn't either but—he has them in stock!

Now you can own a diaboileite—one of the rarest of minerals—if you order it promptly from the Wiener Mineral Co., of Tucson, Ariz.

This will be a blue barite month for Robt. Roots, of Denver, Colo. He has a large stock of blue barite xls from a number of localities of his state.

Another dealer who is featuring nice quartz xls this month is the Ozark Biological Laboratories, of Hot Springs National Park, Ark. Better send them an order, too!

Schortmann's Minerals, of Easthampton, Mass., must be magicians. They have just pulled out of the bag another assortment of choice mineral specimens!

I am so darn busy that I cannot find time to prepare another ad, so insert a small one this time," writes Wilfred C. Eyles, of Bayfield, Colo., the manufacturer of the famous "Streamliner" diamond saws.

J. A. Robertson, of Baxter Springs, Kans., has one of the largest stocks of Tri-State minerals in the country, and the specimens are of high quality!

The Desert Rat's Nest, of E. Pasadena, Calif., has some nice sagenitic agate in stock.

The Colorado Gem Co., of Bayfield, Colo., lists a number of men and women, prominent in mineralogical circles, who have purchased plots in the Gem Village. There is room for you, too, in this colony.

The Vreeland Lapidary Mfg. Co., of Portland, Ore., announces a change in its name—it is now the Vreeland-Young Mfg. Co. This well-known company is building the largest stock of lapidary supplies in the country and is working on low cost machines for postwar production.

Wa-d's Natural Science Est., Inc., of Rochester, N. Y., have set aside 8 choice specimens for our readers this month. Set aside some space in your cabinet to accommodate those which you are going to order!

